VIRTUAL NETWORK WITH ADAPTIVE DISPATCHER

Abstract of the Invention

Methods and systems for providing a virtual network are disclosed. At least one layer of abstraction is created between network service applications and conventional network protocols by inserting an adaptive dispatcher between applications and network transport services on each machine in a network. The message protocol in the virtual network is extensible, allowing application programs to create new headers within any message as needed. The adaptive dispatcher contains handlers that route and dispatch messages within the virtual network based on arbitrary content within each message, including any combination of headers and/or data content. Each device on the virtual network has a virtual address to which messages are directed, allowing devices to move within the network without reconfiguring routing tables. Handlers may be automatically created when an event meeting predefined criteria occurs, including the non-occurrence of a condition, making the virtual network self-healing and adaptive to reconfiguration.